Marine Life Protection Act Initiative



Habitat Replication Evaluation Methods for the North Coast Study Region

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Habitat Replication Guidelines



"Key" marine habitats should be replicated in multiple MPAs across large environmental and geographic gradients to protect the greater diversity of species and communities that occur across such gradients, and to protect species from local year-to-year fluctuations in larval production and recruitment.



At least three to five replicate marine protected areas (MPAs) should be designed for each habitat type within a biogeographical region to provide analytical power for management comparisons and buffer against catastrophic loss of an MPA.



MLPA Master Plan Science Advisory Team (SAT) recommendation that **every key habitat is replicated in each of the <u>bioregions</u>** within the MLPA North Coast Study Region.

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Valuation of Habitat Size

Habitat size guidelines do not consider connectivity or adult movement - these are accounted for in MPA size and spacing guidelines

Based on conservation value:

- How much area or linear distance would likely result in X% of available species in meaningful abundances?
- In other regions 90% of available species has been the required percentage
- Underlying assumption (related to conservation goals) is that 100% is desirable, and that this may be achieved with enforced protection



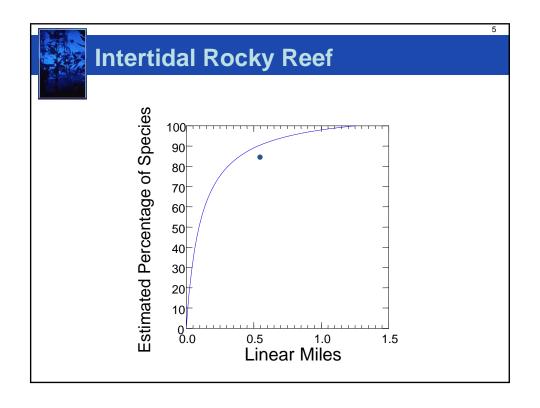
Area vs. Linear Distance

For habitats where the biological community varies more with depth than area, the key measurement is linear distance (distance along coastline). This assumes that the zone of protection extends from shoreline to the offshore edge of that habitat.

- shoreline habitats
- nearshore habitats (0-30 meter depth)

For other habitats the key measurement is area

- substrate >30 meter depth
- estuarine habitats



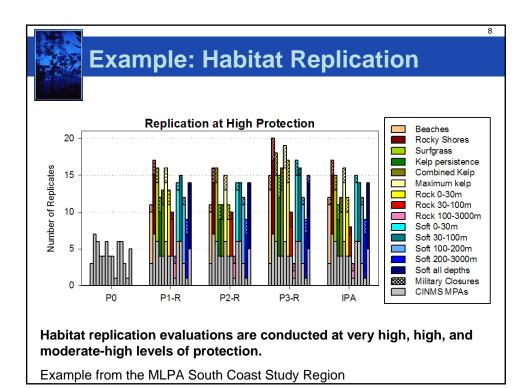
Habitat Replication Guidelines	
Habitat	Representation Needed to Encompass 90% of Biodiversity
Rocky Intertidal	~0.55 linear miles
Shallow Rocky Reefs/Kelp Forests (0-30 M)	~1.1 linear miles
Deep Rocky Reefs (30-100 M)	~0.13 square miles
Deep Rocky Reefs (>100 M)	~0.13 square miles
Sandy Habitat from sandy beaches to sandy habitat >100 M (where >100 M is available).	10 square miles including at least 1.1 linea miles of sandy beach habitat
Estuarine Habitats	To be completed





Habitat Replication Evaluation

- Consider the size of MPAs or MPA clusters must at least meet minimum size guideline (except estuarine MPAs).
- Consider the <u>extent</u> of habitats included in each MPA or MPA cluster – must meet habitat size guidelines.
- Consider levels of protection for each MPA or MPA cluster – replication is assessed at moderate high protection and above.



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Summary

Approval sought for:

- Recommendation of 1 replicate of each key habitat per bioregion
- Habitat size guidelines for replication
- Evaluation of habitat replication will be applied to round 1 – evaluation of external MPA arrays – and subsequent rounds of evaluation of MPA proposals